

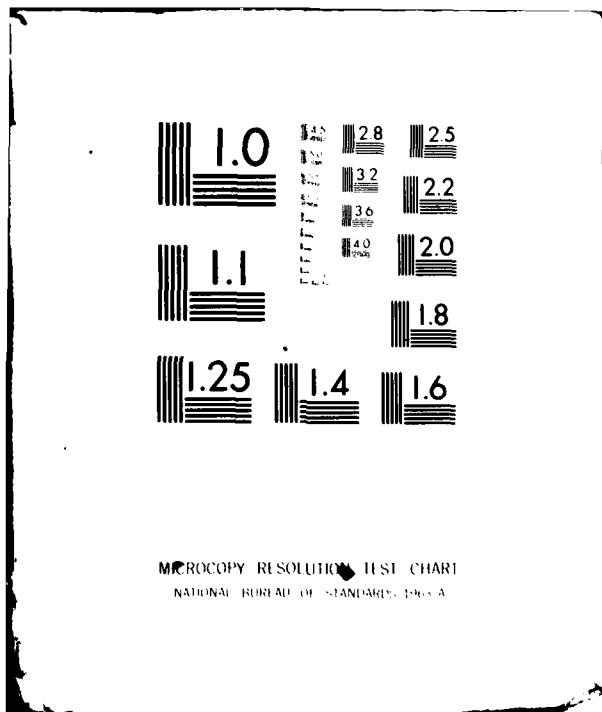
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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
18201A SIG-D, MISSILE NUMBER 7, ROUND NUMBER 3, 19 MARCH 1980.(U)
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METEOROLOGICAL DATA REPORT

18201A SIG-D
Missile Number 7
Round Number 3
19 March 1980

by

White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 18201A SIG-D, Missile Number 7 and Round Number 3 are presented in tabular form.		

R

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<u>Accession For</u>	
NTIS GRA&I	
DDC TAB	
Unannounced	
<u>Justification</u> _____	
<u>By</u> _____	
<u>Distribution/</u>	
<u>Availability Codes</u>	
Dist.	Avail and/or special
A	B

INTRODUCTION

18201A SIG-D, Missile Number 7, Round Number 3, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0829:10 MST on 19 March 1980. The scheduled launch time was 0800 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE

LC-33 2730 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible feet in 500-feet increments.

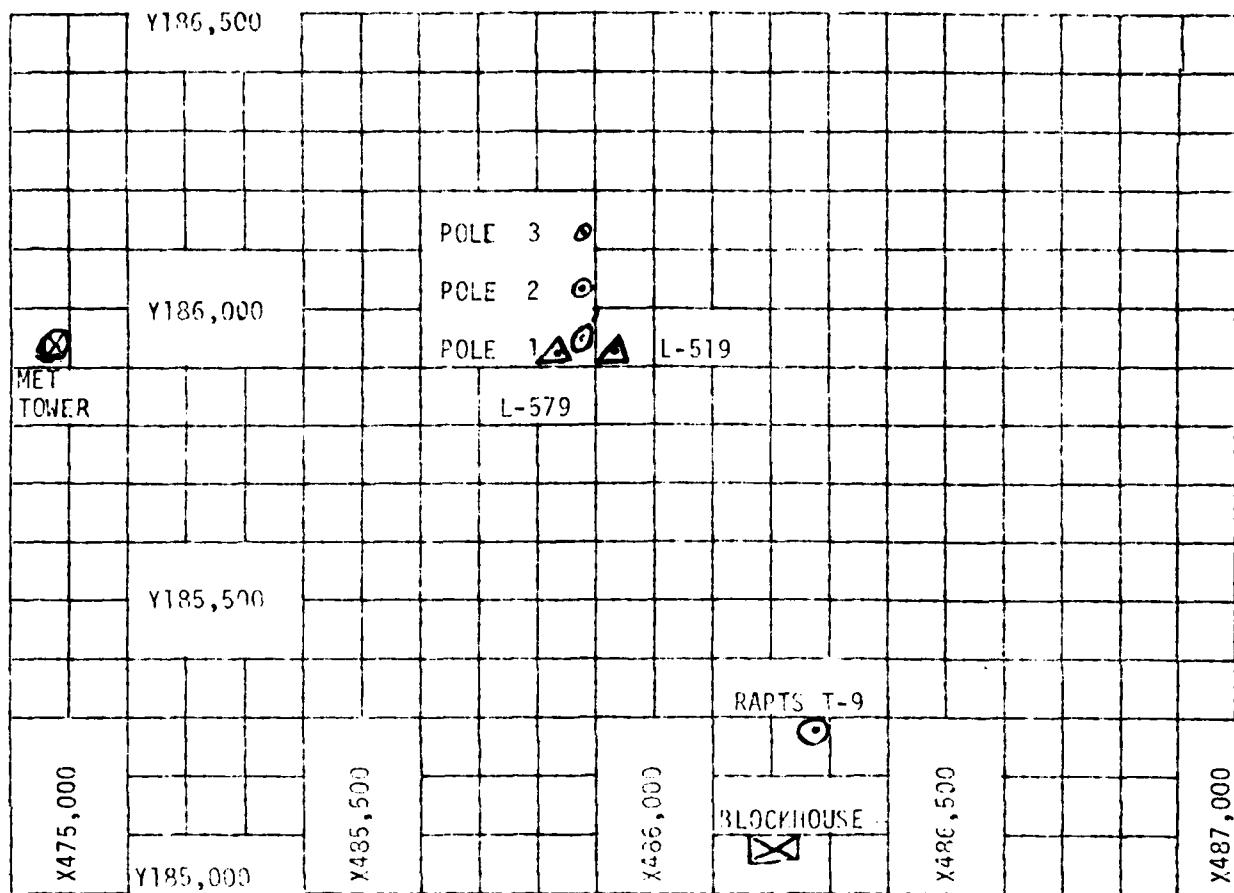
SITE AND TIME

WSD 0750 MST

APA 0730 MST

NW 30 0750 MST

NORTH



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft.
 - (b) Pole #2 - 53.0 ft.
 - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon tracking System T-9 Radar.

TABLE 1. Surface Observations taken at 0829 MST,
19 March 1980, at LC-33, 18201A SIG-D,
Missile Number 7, Round Number 3.

ELEVATION	3977.30	FT/MSL
PRESSURE	874.1	MBS
TEMPERATURE	13.0	"C
RELATIVE HUMIDITY	27	
DEW POINT	-5.7	°C
DENSITY	1060	GM/M ³
WIND SPEED	08	KTS
WIND DIRECTION	166	DEGREES
CLOUD COVER	1	Ci

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
X485,874.29			X485,874.93			X485,877.29		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	158	11	-30	152	11	-30	159	11
-20	135	13	-20	150	09	-20	155	09
-10	140	14	-10	142	12	-10	153	12
0.0	144	13	0.0	156	11	0.0	155	11
+10	140	11	+10	154	10	+10	150	13

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	155	09	-30	153	11
-20	153	09	-20	163	12
-10	152	09	-10	174	11
0.0	166	08	0.0	172	10
+10	162	10	+10	168	12

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	146	12	-30	150	13
-20	158	11	-20	137	11
-10	165	11	-10	150	10
0.0	158	11	0.0	145	11
+10	170	11	+10	153	14

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 19 March 1980 TIME 0829 MST

RELEASE POINT COORDINATES (WSTM) X 486,037.24 Y 182.350.16 Z 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL XX OR FEET AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	166	08
30	256	05
60	236	02
90	250	07
120	173	12
150	184	13
180	195	14
210	193	16
240	191	17
270	198	19
300	204	21
330	204	22
360	203	23
390	192	15
420	MISG	MISG
450	198	15
480	216	24
510	215	23
540	215	24
570	213	24
600	212	24
630	211	25
660	214	27
690	216	30
720	215	31
750	213	31
780	212	30
810	210	29
840	210	29
870	210	28
900	210	28

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
930	209	27
960	211	30
990	212	32
1020	202	33
1050	211	33
1080	212	33
1110	212	33
1140	212	31
1170	212	29
1200	212	30
1230	211	31
1260	211	30
1290	211	29
1320	211	27
1350	211	26
1380	209	26
1410	207	26
1440	207	24
1470	206	23
1500	270	25
1530	334	26
1560	209	27
1590	211	27
1620	212	28
1650	212	27
1680	215	26
1710	218	24
1740	218	26
1770	218	31
1800	219	32
1830	220	32

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
1860	223	31
1890	226	29
1920	226	29
1950	226	29
1980	230	33
2010	223	37
2040	232	40
2070	230	43
2100	230	44
2130	229	45
2160	232	45
2190	235	44
2220	223	49
2250	223	53
2280	232	49
2310	232	52
2340	230	54
2370	228	56
2400	229	57
2430	230	58
2460	230	57
2490	230	56
2520	231	55
2550	231	56
2580	232	55
2610	232	55
2640	233	58
2670	233	60
2700	234	59
2730	234	57

STATION ALTITUDE 3989.00 FEET MSL
 19th APR. 1950 0750HRS MST
 ASST. STATION NO. 160

SIGNIFICANT LEVEL DATA
 0790020100
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
874.0	3989.0	10.0	-5.5	35.0
850.0	4749.1	10.4	-6.8	25.0
828.4	5452.0	10.3	-8.3	25.0
798.8	8533.5	2.3	-13.3	30.0
760.0	9760.5	.6	-17.1	25.0
655.6	11674.6	-3.7	-23.3	19.0
630.2	12371.9	-4.3	-25.0	17.0
604.0	13790.6	-7.1	-25.7	21.0
555.8	15907.4	-11.2	-30.2	19.0
500.0	18544.6	-17.2	-35.0	16.0
449.4	21253.6	-23.2	-39.6	20.0
400.0	25716.5	-29.6	-44.0	23.0
354.6	26706.4	-36.2	-49.4	24.0
332.0	28197.1	-40.5		
300.0	30446.6	-45.4		
250.0	34376.7	-53.9		
242.0	35002.2	-55.4		
233.0	35854.0	-55.6		
229.6	36255.9	-54.8		
219.0	37111.5	-51.5		
211.4	37925.2	-51.6		
200.0	39106.9	-52.9		
178.8	41474.3	-55.6		
167.0	42908.8	-55.4		
150.0	45152.0	-58.1		
126.2	48715.3	-61.1		
115.0	50482.9	-59.7		
85.6	56644.3	-65.1		
72.0	59002.1	-65.4		
70.0	60697.6	-62.3		
65.4	62731.6	-61.4		
57.0	64396.9	-65.0		
54.0	65992.9	-62.3		
50.0	67559.0	-63.4		
44.6	69084.6	-62.4		
41.0	71320.7	-57.8		

STATION ALTITUDE 3939.00 FEET MSL
19 MAR. 20 0750 HRS MSL
ASCENSIO., 1.0. 160

SIGNIFICANT LEVEL DATA

WHITE SANDS
UNIVERSITY

GEOODETIC COORDINATES
32°40'43" LAT DEG
106°37'03" LON LEG

TABLE 5 (CONT)

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	R.H. HUM. PERCENT
39.6	72871.7	-60.4	
35.0	74560.0	-54.9	
30.0	78147.1	-53.6	
26.2	80789.8	-54.4	
20.0	86714.9	-54.4	
17.2	89722.0	-53.3	
11.3	99039.8	-45.6	

STATION ALTITUDE 3489.30 FEET MSL
 19 APR. 00 0750 HRS MST
 ASCESSION NO. 100

UPPER AIR LAYER
 0790020100
 WHITE SANDS

GEODETIC COORDINATES
 32°46'04.3 LAT DEG
 106.37033 LONG DEG

TABLE 6

STATION ALTITUDE MSL FT	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPD OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES	WIND SPEED KNOTS	INDEX OF REFRACTION.
5089.0	974.0	10.0	-55.5	33.0	1073.4	650.1	160.0	4.1
4600.0	973.6	10.0	-55.5	32.9	1072.0	656.1	161.2	4.1
4510.0	957.0	10.3	-7.6	27.6	1052.8	650.4	189.2	8.0
5000.0	942.2	10.4	-3.8	25.0	1035.4	646.4	198.1	12.6
5250.0	826.9	10.2	-5.9	25.1	1015.3	636.2	202.4	17.2
5800.0	811.7	8.9	-9.6	25.9	1001.3	634.7	205.4	20.6
6300.0	793.8	7.6	-10.3	26.7	987.4	633.2	209.3	21.7
6800.0	782.1	6.3	-11.1	27.5	973.8	631.6	210.0	22.5
7300.0	677.7	5.0	-11.8	28.3	960.4	630.1	209.7	22.9
7600.0	555.6	3.7	-12.6	29.1	947.2	648.0	209.7	23.5
8100.0	539.7	2.4	-13.4	29.9	934.2	647.0	210.4	24.1
8600.0	525.4	1.7	-14.6	28.4	919.0	646.2	213.3	23.8
9100.0	512.3	1.1	-15.9	26.6	903.0	645.5	217.0	23.2
9600.0	626.9	0.5	-17.3	24.9	889.0	644.7	223.4	25.3
10000.0	685.7	-0.8	-19.2	23.1	870.3	643.2	228.1	26.6
11000.0	672.7	-2.0	-21.2	21.4	863.0	641.7	231.7	35.0
11500.0	660.0	-3.3	-23.2	19.6	851.4	640.2	234.1	40.5
12000.0	647.4	-4.0	-24.7	18.1	837.5	639.3	235.6	44.0
12500.0	635.0	-4.6	-25.6	17.4	825.3	638.6	237.0	46.5
13000.0	622.8	-5.5	-25.6	18.8	810.4	637.4	237.7	48.2
13500.0	510.9	-6.5	-25.6	20.2	797.8	636.3	237.9	49.6
14000.0	599.0	-7.5	-26.1	20.8	785.2	635.1	238.0	51.0
14500.0	587.4	-8.5	-27.2	20.3	772.8	635.3	238.0	52.0
15000.0	575.9	-9.4	-28.2	19.9	760.6	632.8	238.3	54.9
15500.0	564.7	-10.4	-29.3	19.4	746.5	631.0	238.6	56.9
16000.0	555.7	-11.4	-30.4	19.0	736.7	630.4	239.5	59.0
16500.0	542.7	-12.6	-31.4	18.8	725.5	629.0	239.9	60.1
17000.0	531.9	-13.7	-32.5	18.6	714.0	627.6	234.3	61.1
17500.0	521.4	-14.8	-33.6	18.4	702.9	626.2	235.5	61.2
18000.0	511.0	-16.0	-34.6	18.2	692.0	624.8	236.7	61.5
18500.0	500.9	-17.1	-35.7	18.0	681.3	623.5	237.5	62.6
19000.0	490.7	-18.2	-36.4	18.3	670.4	622.1	238.2	63.9
19500.0	480.8	-19.3	-37.2	18.7	659.7	620.7	238.7	66.0
20000.0	471.0	-20.4	-37.9	19.1	649.1	619.4	239.2	67.7
20500.0	461.4	-21.5	-38.7	19.4	636.0	618.0	239.6	68.7
21000.0	452.1	-22.6	-39.4	19.6	628.6	616.7	240.4	70.1
21500.0	442.8	-23.6	-40.2	20.3	616.5	615.2	240.0	71.9
22000.0	433.6	-25.0	-40.9	20.8	605.6	613.7	240.5	73.6
22500.0	424.6	-26.2	-41.7	21.4	593.8	612.3	239.8	75.6
23000.0	415.7	-27.4	-42.5	22.0	589.2	610.8	236.0	76.1

STATION ALTITUDE 3489.00 FEET MSL
10 M.R. 0° 0750 HRS 151
ASCENSION NO. 100

UPPER AIR DATA
07900N 110W
WHITE SANDS

GEODETIC COORDINATES
32.40045 LAT DEG
106.37033 LON DEG

TABLE 6 (CONT)

STATION ALTITUDE	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEMPPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KILOTS	WIND DATA DIRECTN, DEGREES(LN)	SPEED KILOTS	INDEX OF REFRACTION.
25500.0	407.1	-28.6	-43.3	22.5	579.8	609.3	297.7	76.2	1.000130
24700.0	398.6	-29.8	-44.2	23.0	570.5	607.8	237.5	76.5	1.000128
24000.0	390.0	-31.0	-45.1	21.2	561.0	616.3	237.5	76.9	1.000126
23100.0	381.7	-32.2	-46.1	23.4	551.7	614.8	237.9	79.7	1.000124
22500.0	373.0	-33.5	-47.0	23.6	542.6	613.3	238.3	82.4	1.000121
21600.0	365.6	-34.5	-48.0	23.7	533.7	611.8	238.4	84.7	1.000119
20500.0	357.8	-35.7	-49.0	23.9	524.9	610.3	238.5	86.3	1.000117
21100.0	350.0	-37.0	-52.0	19.3**	516.4	598.6	237.6	86.6	1.000115
27100.0	342.4	-38.5	-57.6	11.2**	508.3	596.8	237.2	87.2	1.000113
26000.0	334.9	-39.9	-68.1	3.2**	500.3	594.9	238.5	88.4	1.000111
28300.0	327.5	-41.2			491.8	593.4	236.5	89.5	1.000110
29100.0	320.2	-42.2			483.1	592.0	237.1	90.7	1.000108
29500.0	313.1	-43.3			474.6	590.6	237.4	91.6	1.000106
30100.0	306.1	-44.4			466.2	589.2	239.0	92.2	1.000104
30200.0	299.3	-45.5			458.0	587.8	239.7	93.3	1.000102
31100.0	292.4	-46.6			449.6	586.4	240.4	95.0	1.000101
31400.0	285.7	-47.7			441.4	585.0	240.4	97.1	1.000100
32000.0	279.1	-48.8			433.4	583.6	240.0	99.7	1.000097
32510.0	272.7	-49.8			425.5	582.2	240.1	100.9	1.000095
33000.0	266.5	-50.9			417.7	580.8	240.3	100.4	1.000093
33510.0	260.4	-52.0			411.2	579.3	240.4	101.0	1.000091
34010.0	254.4	-53.1			402.7	577.9	240.5	102.8	1.000090
34510.0	248.5	-54.2			393.4	576.5	240.5	106.1	1.000088
35010.0	242.7	-55.3			385.1	575.1	240.5	110.1	1.000086
35510.0	237.0	-55.5			379.4	574.7	241.4	102.4	1.000084
36010.0	231.4	-55.3			370.1	575.0	241.4	94.0	1.000082
36510.0	226.0	-53.9			359.1	576.9	241.6	85.2	1.000080
37010.0	220.6	-51.9			347.6	579.4	241.4	80.5	1.000077
37510.0	215.6	-51.5			339.0	579.9	240.6	81.0	1.000076
38010.0	210.7	-51.7			331.4	579.6	240.2	81.5	1.000074
38510.0	205.8	-52.2			324.5	579.0	239.5	81.9	1.000072
39010.0	201.0	-52.6			317.6	578.3	239.6	81.7	1.000071
39510.0	196.3	-53.3			311.1	577.6	237.7	79.2	1.000070
40010.0	191.7	-53.9			304.7	576.8	236.6	76.7	1.000068
40510.0	187.2	-54.6			298.3	576.1	235.6	74.4	1.000066
41010.0	182.9	-55.1			292.1	575.3	234.5	72.1	1.000065
41510.0	178.6	-55.6			286.0	574.6	234.6	72.7	1.000064
42010.0	174.4	-55.5			279.1	574.7	235.5	73.6	1.000062
42510.0	170.3	-55.5			272.5	574.8	239.3	74.5	1.000061
43010.0	166.3	-55.5			266.1	574.7	237.4	75.5	1.000059

STATION ALTITUDE 3989.00 FEET MSL
 19 APR 60 0750 HRS MST
 SEC, SIO, NO. 160

UPPER AIR DATA
 0790020106
 WHITE SANDS

GEODETIC COORDINATES
 32°40'43" LAT 106°37'33" LONG

TABLE 6 (CONT)

GEOD. ALTITUDE MILLIARCS MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	DIRECTION DEGREES (T.)	WIND DATA KNOTS	INDEX OF REFRACTION
43500.0	162.3	-56.1		260.0	575.9	250.2	1.000058
44000.0	158.5	-56.0		255.1	573.1	233.4	1.000057
44500.0	154.6	-57.3		249.0	572.3	234.7	1.000056
45000.0	151.1	-57.9		244.6	571.5	233.0	1.000054
45500.0	147.6	-58.4		239.2	570.9	238.4	1.000053
46000.0	144.0	-58.8		234.0	570.4	239.1	1.000052
46500.0	140.5	-59.2		228.8	569.8	239.6	1.000051
47000.0	137.1	-59.7		223.6	569.2	240.5	1.000050
47500.0	133.9	-60.1		218.9	568.7	241.2	1.000049
48000.0	130.7	-60.5		214.0	568.1	241.8	1.000048
48500.0	127.5	-60.9		209.3	567.5	242.5	1.000047
49000.0	124.3	-60.9		204.3	567.0	242.7	1.000046
49500.0	121.5	-60.5		199.0	568.1	243.2	1.000044
50000.0	118.6	-60.1		193.8	566.7	243.6	1.000043
50500.0	115.7	-59.7		189.9	569.1	244.6	1.000042
51000.0	112.9	-61.1		185.5	567.4	245.6	1.000041
51500.0	110.2	-61.7		181.5	566.5	247.4	1.000040
52000.0	107.5	-62.0		177.4	566.1	247.5	1.000040
52500.0	104.9	-62.0		173.1	566.1	250.8	1.000039
53000.0	102.4	-60.7		167.9	567.8	251.4	1.000037
53500.0	99.9	-60.6		163.6	567.9	253.2	1.000036
54000.0	97.5	-61.3		160.4	567.0	254.6	1.000036
54500.0	95.1	-62.0		157.0	566.0	256.7	1.000035
55000.0	92.8	-62.8		153.7	565.1	258.3	1.000034
55500.0	90.6	-63.5		150.5	564.1	261.3	1.000034
56000.0	88.4	-64.2		147.3	563.2	264.3	1.000033
56500.0	86.2	-64.9		144.2	562.2	265.7	1.000032
57000.0	84.0	-65.1		140.9	561.9	267.7	1.000031
57500.0	82.0	-65.2		137.4	561.8	267.3	1.000031
58000.0	80.0	-65.2		134.1	561.8	266.0	1.000030
58500.0	78.1	-65.3		130.8	561.7	260.0	1.000029
59000.0	76.1	-65.3		127.6	561.6	255.0	1.000028
59500.0	74.4	-65.4		124.5	561.6	252.7	1.000028
60000.0	72.4	-64.9		121.2	562.2	251.6	1.000027
60500.0	70.7	-62.4		118.4	563.0	251.2	1.000026
61000.0	69.0	-61.3		115.4	567.1	250.4	1.000025
61500.0	67.3	-61.0		112.3	567.4	250.9	1.000025
62000.0	65.7	-60.8		107.8	567.6	250.9	1.000024
62500.0	64.1	-60.5		105.0	565.1	250.5	1.000023
63000.0	62.6	-61.0		102.7	567.5	250.7	1.000023

STATION ALTITUDE 3989.00 FEET MSL
 19 MAY 1950 0750 HRS MST
 ASCENSIOU: 1.0. 160

UPPER AIR UNITA
 07900±010.0
 WHITE SANDS

GEODETIC COORDINATES
 32°40'04.3 LAT N
 106°37'03.3 LONG E

TABLE 6 (CONT)

GEOD. TIME	PRESSURE	TEMPERATURE	REL. HUM.	SPEED OF	WIND DATA	INDEX	
ALTITUDE	MM. MILLIBARS	AIR DEGREE CENTIGRADE	DEGREE PERCENT	WIND DIRECTION	SPEED	OR	
MSL FEET				DEGREES (T.)	KNOTS	REFRACTION	
03000.0	61.0	-62.0	100.7	50.0.1	2.0	1.000002	
04000.0	59.6	-63.1	90.6	50.4.0	33.1	1.000002	
04500.0	58.1	-64.2	96.9	50.3.2	43.5	1.0000022	
05000.0	50.1	-64.7	94.6	50.2.4	35.0	1.0000021	
05500.0	55.3	-63.5	91.9	50.4.1	15.0	1.0000020	
06000.0	54.0	-62.3	85.2	50.5.7	29b.7	1.0000020	
06500.0	52.7	-62.7	87.2	50.2.2	26.9	1.0000019	
07000.0	51.4	-63.0	85.2	50.4.7	25b.4	37.7	1.0000019
07500.0	50.1	-63.4	83.3	50.4.3	25b.2	46.0	1.0000019
08000.0	48.9	-63.2	81.2	50.4.5	252.0	52.5	1.0000018
08500.0	47.7	-63.0	79.1	50.4.8	251.0	59.1	1.0000018
09000.0	46.6	-62.6	77.1	50.5.1	252.0	52.4	1.0000017
09500.0	45.5	-62.6	75.2	50.5.3	25b.2	45.0	1.0000017
70000.0	44.4	-62.0	73.2	50.6.1	25b.7	38.3	1.0000016
70500.0	43.3	-60.4	70.9	50.6.2	26b.9	27.5	1.0000016
71000.0	42.3	-58.8	66.7	570.3	264.7	17.9	1.0000015
71500.0	41.2	-58.1	66.8	571.3	310.5	13.2	1.0000015
72000.0	40.3	-58.9	65.5	570.2	322.1	11.8	1.0000015
72500.0	39.3	-59.8	64.2	50.9.1	330.0	11.0	1.0000014
73000.0	38.4	-60.0	62.7	50.8.6	342.0	10.1	1.0000014
73500.0	37.5	-58.4	60.7	571.0	342.0	8.7	1.0000014
74000.0	36.6	-56.7	58.9	573.1	342.3	7.2	1.0000013
74500.0	35.7	-55.1	57.0	573.3	35b.7	6.7	1.0000013
75000.0	34.9	-55.4	55.8	574.9	2.2	6.6	1.0000012
75500.0	34.0	-55.9	54.0	574.3	13.4	6.8	1.0000012
76000.0	33.2	-56.4	53.4	573.6	20.4	7.4	1.0000012
76500.0	32.5	-56.9	52.3	572.9	25.8	8.0	1.0000012
77000.0	31.7	-57.4	51.2	572.2	30.2	8.5	1.0000011
77500.0	30.9	-57.9	50.1	571.3	33.1	8.5	1.0000011
78000.0	30.2	-58.4	49.0	570.8	36.0	8.5	1.0000011
78500.0	29.5	-58.1	47.6	571.5	37.5	8.2	1.0000011
79000.0	28.8	-57.3	46.5	572.3	37.0	7.7	1.0000010
79500.0	28.1	-56.6	45.2	573.3	38.1	7.2	1.0000010
80000.0	27.5	-55.9	44.0	574.3	36.7	6.3	1.0000010
80500.0	26.8	-55.1	42.9	575.2	34.0	5.2	1.0000010
81000.0	26.2	-54.4	41.7	576.2	31.1	4.2	1.0000010
81500.0	25.6	-54.4	40.7	576.2	10.3	2.5	1.0000009
82000.0	25.0	-54.4	39.8	576.2	317.1	1.8	1.0000009
82500.0	24.4	-54.4	38.9	576.2	272.1	3.0	1.0000009
83000.0	23.8	-54.4	37.9	576.2	25b.9	5.3	1.0000008

STATION ALTITUDE 3989.00 FEET MSL
 19 N.P. 03 0750 HRS MST
 ASCENSIO. NO. 160

UPPER AIR DATA
 0790020160
 WHITE SANDS

GEODETIC COORDINATES
 32.4043 LAT DEG
 106.37033 LON DEG

TABLE 6 (CONT)
 GEOMETRIC ALTITUDE PRESSURE TEMPERATURE REL.HUM. SPEED OF WIND DATA INDEX
 IN FEET MILLIBARS DEGREES CENTIGRADE DEWPOINT PERCENT GM/CURIC SOUND SPEED OF
 MSL FEET MILLIARS DEGREES CENTIGRADE DEGREES CENTIGRADE PERCENT KM/SEC KNOTS REFRACTION

83500.0	29.5	-54.4	37.1	5/6.2	249.7	7.7
84000.0	22.7	-54.4	36.2	5/7.2	246.7	9.8
84500.0	22.2	-54.4	35.4	5/7.2	245.5	10.6
85000.0	21.7	-54.4	34.5	5/8.2	244.4	11.4
85500.0	21.2	-54.4	33.7	5/8.2	243.4	12.2
86000.0	20.7	-54.4	32.9	5/7.2	242.2	11.1
86500.0	20.2	-54.4	32.2	5/7.2	241.9	9.9
87000.0	19.7	-54.3	31.4	5/7.3	242.5	8.7
87500.0	19.3	-54.1	30.7	5/8.5	241.6	7.4
88000.0	18.8	-54.0	29.9	5/9.8	237.1	6.2
88500.0	18.4	-53.8	29.2	5/7.0	232.0	5.0
89000.0	18.0	-53.6	28.5	5/7.2	225.7	4.4
89500.0	17.5	-53.4	27.6	5/7.5	215.0	4.7
90000.0	17.1	-53.2	27.1	5/7.7	207.0	5.2
90500.0	16.7	-52.8	26.5	5/8.3	201.3	5.6
91000.0	16.4	-52.4	25.8	5/7.8	193.0	5.7
91500.0	16.0	-52.0	25.2	5/9.4	188.0	5.0
92000.0	15.6	-51.5	24.6	5/7.9	175.9	6.0
92500.0	15.3	-51.1	24.0	5/8.5	193.9	6.8
93000.0	14.9	-50.7	23.4	5/1.0	211.4	8.5
93500.0	14.6	-50.3	22.6	5/1.0	222.4	10.7
94000.0	14.3	-49.9	22.2	5/2.1	230.6	13.4
94500.0	13.9	-49.4	21.7	5/2.7	238.2	16.7
95000.0	13.6	-49.0	21.2	5/3.2	243.1	20.3
95500.0	13.3	-48.6	20.6	5/3.8	240.5	23.9
96000.0	13.0	-48.2	20.1	5/4.2	249.1	18.7
96500.0	12.7	-47.7	19.6	5/4.9	254.5	13.4
97000.0	12.4	-47.3	19.1	5/5.4	205.7	8.3
97500.0	12.1	-46.9	18.7	5/6.0	1.000004	1.000004
98000.0	11.9	-46.5	18.2	5/6.3	1.000004	1.000004
98500.0	11.6	-46.1	17.8	5/6.7	1.000004	1.000004
99000.0	11.3	-45.6	17.3	5/6.7	1.000004	1.000004

STATION ALTITUDE 3487.00 FEET MSL
 1" MMK. 0.9 0750 IAMS MSI
 ASSET SIGN. NO. 100

MANDATORY LEVELS
 07900Z0100
 WHITE SANDS

TABLE 7

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	DEGREES CENTIGRADE	TEMPERATURE AIR AT POINT REFCEN	KELVIN REL.HUM. PERCENT	WIND DATA DIRECTION IN DEGREES (TN)	WIND SPEED KNOTS
950.0	4746.	10.4	-8.2	25.	194.6	10.2
807.0	6305.	7.9	-10.2	<7.	203.3	21.4
757.0	8126.	3.4	-12.3	<9.	209.9	23.6
700.0	9951.	.6	-17.1	<5.	222.7	25.6
650.0	11824.	-3.9	-24.4	18.	235.5	43.3
600.0	13344.	-7.4	-26.0	<1.	238.0	50.9
550.0	16149.	-11.8	-30.7	19.	233.6	59.3
500.0	18519.	-17.2	-35.6	16.	237.5	62.7
450.0	21072.	-22.0	-39.6	<9.	240.5	70.5
400.0	23377.	-29.6	-44.0	<5.	237.5	76.4
350.0	46356.	-37.1	-52.0	19.**	237.9	86.6
300.0	50387.	-45.4	-50.0	239.7	90.1	
250.0	54303.	-53.9	-55.0	240.5	105.0	
200.0	59014.	-52.9	-54.0	238.6	81.2	
175.0	41821.	-55.5	-57.0	235.2	73.4	
150.0	45032.	-58.1	-58.0	238.3	63.6	
125.0	48772.	-60.9	-60.0	242.0	63.1	
100.0	53322.	-60.6	-60.0	253.1	43.9	
80.0	57817.	-65.2	-65.0	260.1	19.2	
70.0	60491.	-61.4	-61.0	251.3	70.8	
60.0	63632.	-62.8	-62.0	25.5	19.5	
50.0	67317.	-63.4	-63.0	253.1	46.3	
40.0	71651.	-59.2	-59.0	324.7	11.6	
30.0	77416.	-58.6	-58.0	30.6	6.5	
25.0	81672.	-54.4	-54.0	324.7	1.6	
20.0	86313.	-54.4	-54.0	242.7	9.5	
15.0	92399.	-50.8	-50.0	205.7	7.7	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3451.40 FEET MSL
 19 MAY 1953
 ASCENSIO. NO. 11

SIGNIFICANT LEVEL DATA
 0790050011
 APACHE

GEODETIC COORDINATES
 32° 62' 700 LAT deg
 106° 39' 352 LONG deg

TABLE 8

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENIGRAU	REL.HUM. PERCENT
876.4	3951.4	4.1	49.0
865.8	4277.9	6.6	37.0
855.4	4605.3	10.3	34.0
850.0	4778.9	10.8	32.0
835.0	5265.5	10.1	31.0
700.0	9080.5	-1.4	34.0
660.8	11478.5	-5.2	32.0
545.6	16352.8	-12.8	31.0
500.0	18519.4	-13.1	<0.0
400.0	23874.4	-30.1	<6.0
345.6	27344.2	-38.0	<0.0
322.2	28613.1	-42.3	
300.0	30391.8	-45.3	
250.0	34315.6	-51.7	
239.2	35242.4	-56.5	
228.4	36208.3	-56.4	
213.0	37681.7	-52.4	
200.0	39619.2	-53.7	
175.0	41847.5	-53.7	
157.6	44052.6	-56.4	
150.0	45082.7	-58.2	
130.0	48023.6	-62.5	
115.0	50421.0	-61.0	
105.6	52264.1	-62.5	
100.0	53381.9	-61.1	
96.0	54219.4	-60.6	
70.4	58322.9	-60.5	
70.0	60607.6	-62.8	
57.0	64773.6	-64.2	
50.0	67434.7	-62.3	
38.0	73065.0	-60.1	
35.6	74421.2	-56.8	
30.0	78000.7	-57.6	

STATION ALTITUDE 9,514.40 FEET MSL
19 MAR. 69 0730 HRS MST
ASCR.SUJ. 1.0. 11

UPPER AIR DATA
0790050011
APACHE

GEODETIC COORDINATES
32°02'700 LAT CES
106°39'352 LONG DEG

TABLE 9

GEOPHYSIC	PRESSURE ATMOSPHERE IN MILLIBARS	TEMPERATURE DEGREES	AIR DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (1.)	INDEX REFRACTION
3951.4	976.4	4.1	-5.6	49.0	109.3	649.2	400.0	5.1
4010.6	974.8	4.5	-5.8	47.2	1095.9	649.7	415.5	4.8
4050.6	958.7	9.1	-5.5	35.0	1058.0	655.1	70.1	2.8
5000.6	843.2	10.5	-5.7	31.5	1032.7	656.7	129.0	2.7
5250.6	427.7	9.5	-6.7	31.1	1018.3	655.6	161.0	4.6
6000.6	812.4	6.3	-7.6	31.5	1003.9	654.1	172.6	6.9
6500.6	950.0	7.1	-8.5	31.6	989.9	652.7	161.7	7.6
7000.6	782.5	5.7	-9.5	32.1	975.6	651.2	168.7	6.7
7500.6	688.1	4.7	-10.4	32.4	961.8	649.8	192.4	10.6
8000.6	755.8	3.4	-11.4	32.7	946.3	648.3	196.4	12.7
8500.6	739.9	2.2	-12.3	33.1	934.9	646.9	202.2	14.2
9000.6	726.1	1.0	-13.3	33.4	921.7	645.4	207.6	15.9
9500.6	712.7	-0.2	-14.3	34.7	906.7	643.9	211.2	18.1
10000.6	699.3	-1.4	-15.2	34.0	895.9	642.5	214.4	20.4
10500.6	686.1	-2.7	-16.6	33.3	883.1	640.9	217.0	23.4
11000.6	673.1	-4.0	-18.0	32.6	870.4	639.4	219.5	26.7
11500.6	660.2	-5.2	-19.3	32.0	857.9	637.9	223.6	31.4
12000.6	647.4	-6.0	-20.4	30.8	845.7	637.0	226.8	36.3
12500.6	634.6	-6.8	-21.5	29.7	829.7	636.0	229.4	41.3
13000.6	622.4	-7.6	-22.6	28.6	816.0	635.1	230.9	46.0
13500.6	610.3	-8.4	-21.9	27.4	802.5	634.1	231.2	50.0
14000.6	598.2	-9.1	-24.9	26.3	789.2	633.2	231.5	53.7
14500.6	596.3	-9.3	-26.1	25.2	776.2	632.2	231.6	56.9
15000.6	575.4	-10.7	-27.2	24.1	763.4	631.3	231.7	59.4
15500.6	564.2	-11.5	-29.4	22.9	750.8	630.3	231.9	59.6
16000.6	553.2	-12.2	-29.6	21.8	736.4	629.4	232.0	59.6
16500.6	542.4	-13.2	-30.8	20.9	726.5	628.3	231.9	58.6
17000.6	531.6	-14.4	-32.0	20.7	715.4	628.8	231.8	58.2
17500.6	521.0	-15.6	-33.1	20.5	704.5	625.3	232.3	58.6
18000.6	510.6	-16.8	-34.3	20.2	693.8	624.8	232.5	59.2
18500.6	500.4	-18.1	-35.4	20.0	683.2	622.3	232.0	60.6
19000.6	490.1	-19.2	-36.1	20.5	672.1	620.9	231.7	62.3
19500.6	480.0	-20.3	-36.8	21.1	661.2	619.5	232.4	65.5
20000.6	470.1	-21.4	-37.5	21.7	650.4	618.2	235.1	68.5
20500.6	460.4	-22.5	-38.2	22.2	639.9	616.8	234.7	70.3
21000.6	450.9	-23.7	-39.0	22.8	629.5	615.4	236.3	72.2
21500.6	441.6	-24.8	-39.7	23.3	619.3	614.0	236.9	73.5
22000.6	432.5	-25.9	-40.4	23.9	609.3	612.6	237.6	74.7
22500.6	423.6	-27.0	-41.2	24.5	599.4	611.2	237.5	76.2
23000.6	414.8	-28.1	-42.0	25.0	589.8	609.8	237.4	77.7

STATION ALTITUDE 3321.40 FEET MSL
 19 APR. 19 0730 HRS MST
 ASCENSION NO. 11

UPPER AIR DATA
 0790050011
 APACHE

GEODETIC COORDINATES
 32.62700 LAT LEG
 106.39352 LONG SEG

TABLE 9 (CONT)

GEOPHYSICAL PRESSURE	TEMPERATURE	REL.HUM.	DESP. WT.	WIND DATA	INDEX
ALTIMETER IN MILLIBARS	AIR DEWPNT DEGREES CENTIGRADE	PERCENT	G/M/CU'31C METER	DIRECTION DEGREES (T.)	OF REFRACTION:
4000.0	-29.3	25.6	580.3	600.4	236.0
3970.6	-30.4	26.0	570.9	607.0	236.2
389.5	-31.7	44.7	561.5	605.4	235.0
380.9	-32.9	45.0	552.5	603.9	235.0
372.8	-34.2	46.9	543.3	602.5	234.0
364.8	-35.4	48.0	534.4	601.7	234.0
356.9	-36.6	49.1	525.7	599.1	235.0
349.5	-37.9	50.2	517.2	597.6	235.2
341.6	-39.1	53.7	508.4	596.0	235.5
334.1	-40.3	58.6	499.6	594.5	235.8
326.7	-41.5	66.6	491.4	592.9	236.1
319.5	-42.7	70.0	482.9	591.5	236.4
312.3	-43.6	74.0	474.0	590.2	237.0
305.0	-44.6	79.4	465.4	589.0	237.7
298.5	-45.6	85.0	456.9	587.7	238.0
291.6	-46.8	91.8	448.8	586.2	238.5
284.9	-48.0	98.0	440.3	584.6	239.0
278.4	-49.2	99.2	433.0	583.1	239.9
272.0	-50.4	99.6	425.3	581.5	239.6
265.6	-51.5	99.9	417.6	579.9	239.2
259.7	-52.7	99.7	410.4	578.4	238.9
253.7	-53.9	99.0	403.2	576.8	239.1
247.8	-55.1	98.0	395.8	575.5	239.3
242.0	-56.0	97.0	389.2	574.0	239.5
236.3	-56.9	95.5	379.9	573.5	239.6
230.7	-58.4	93.0	370.8	573.5	239.1
225.3	-59.6	90.0	360.7	574.6	239.0
220.0	-54.3	87.0	359.1	576.4	238.1
214.8	-52.9	85.0	359.8	576.2	237.0
209.8	-52.7	83.0	351.6	574.4	237.1
204.9	-53.2	81.0	349.6	577.8	236.6
200.2	-53.7	79.0	317.7	577.1	235.9
195.5	-53.7	77.0	319.4	577.1	235.1
191.0	-53.7	75.0	303.1	577.1	234.6
186.5	-53.7	73.0	296.1	577.1	234.0
180.0	-53.7	71.0	289.1	577.1	233.4
172.1	-53.7	69.0	272.4	577.1	232.8
173.7	-53.9	67.0	276.0	576.9	233.5
169.7	-54.5	65.0	270.3	576.1	233.7
165.7	-55.1	63.0	264.7	575.3	233.9

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3951.40 FEET MSL
 19 APR. 63 0730 hrs MST
 ASSEMBLY NO. 11

UPPER AIR DATA
 AFACHE
 TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE IN MILLIBARS	TEMPERATURE AIR DEGREE C	DEPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIL STEP	WIND DATA KNOTS	WIND DATA KNOTS	INDEX OF REFRACTION.
4350.0	161.0	-55.7			250.2	574.4	234.2	1.000053
4400.0	158.9	-56.3			253.9	573.6	234.5	1.000057
4450.0	154.3	-57.2			248.8	572.5	234.9	1.000055
4500.0	150.6	-58.1			245.9	571.4	235.2	1.000054
4550.0	147.0	-58.8			236.9	570.4	235.6	1.000053
4600.0	143.5	-59.5			233.9	569.4	236.0	1.000052
4650.0	140.0	-60.3			229.1	568.4	236.0	1.000051
4700.0	136.6	-61.0			224.4	567.4	236.2	1.000050
4750.0	133.4	-61.7			219.7	566.3	236.3	1.000049
4800.0	130.1	-62.5			215.2	565.5	236.4	1.000048
4850.0	127.0	-62.2			209.7	564.6	236.5	1.000047
4900.0	123.9	-61.9			204.4	563.2	236.6	1.000046
4950.0	120.9	-61.6			199.1	562.7	236.6	1.000044
5000.0	118.6	-61.3			194.0	561.7	237.2	1.000043
5050.0	115.2	-61.1			189.1	561.4	238.3	1.000042
5100.0	112.0	-61.0			184.9	560.3	239.9	1.000041
5150.0	109.7	-61.0			180.8	560.3	243.5	1.000040
5200.0	107.0	-62.3			176.8	560.7	247.1	1.000039
5250.0	104.4	-62.2			172.4	561.8	250.4	1.000038
5300.0	101.9	-61.6			167.8	561.7	253.9	1.000037
5350.0	99.4	-61.0			163.3	567.4	255.0	1.000036
5400.0	97.0	-60.7			159.1	567.8	257.4	1.000035
5450.0	94.7	-61.0			155.5	567.4	259.2	1.000034
5500.0	92.4	-61.7			152.2	568.5	261.5	1.000034
5550.0	90.1	-62.4			149.0	565.3	264.5	1.000033
5600.0	87.9	-63.2			145.9	564.5	266.3	1.000032
5650.0	85.6	-63.9			142.8	563.6	268.3	1.000032
5700.0	83.3	-64.6			139.8	562.0	264.7	1.000031
5750.0	81.0	-65.3			136.9	561.6	261.4	1.000030
5800.0	79.7	-66.0			134.0	560.7	258.6	1.000030
5850.0	77.4	-66.2			130.8	560.4	256.5	1.000029
5900.0	75.1	-65.4			127.1	561.5	256.0	1.000028
5950.0	72.8	-64.6			125.5	562.6	255.6	1.000028
6000.0	70.4	-65.0			120.0	563.7	256.7	1.000027
6050.0	68.1	-62.9			116.6	564.8	257.6	1.000026
6100.0	65.7	-63.1			113.8	564.8	259.6	1.000025
6150.0	63.3	-63.3			111.1	564.6	261.2	1.000025
6200.0	60.9	-63.4			106.3	564.4	261.6	1.000024
6250.0	58.6	-63.4			105.9	564.2	262.0	1.000024
6300.0	62.2	-63.3			103.4	563.9	260.2	1.000023

STATION ALTITUDE 3951.40 FEET MSL
 19 MAY 19 0730 hrs MST
 ASST. SION NO. 11

UPPER AIR DATA
 0790050011
 APACHE
 TABLE 9 (CONT)

GEODETIC ALTITUDE M.S.L. FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	RHCL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF WIND KNOTS	WIND DATA DIRECTION DEGREES (T.)	INFLUX OF REFRACTION	
							WIND SPEED KNOTS	WIND DIRECTION DEGREES (T.)
5950.0	60.7	-63.8			101.0	503.7	250.7	40.1
5900.0	59.2	-63.9			86.6	503.9	252.9	38.4
5850.0	57.8	-64.1			96.3	503.3	249.5	37.6
5800.0	56.4	-64.0			95.9	503.4	240.1	37.2
5750.0	55.0	-63.7			91.5	503.6	242.6	36.8
5700.0	53.7	-63.3			89.1	504.3	241.4	37.3
5650.0	52.4	-63.0			86.8	504.9	240.2	37.7
5600.0	51.1	-62.6			84.5	503.3	239.5	37.4
5550.0	49.8	-62.3			82.3	503.7	241.0	34.2
5500.0	48.5	-62.1			80.3	503.0	242.7	31.0
5450.0	47.2	-61.9			78.3	503.3	240.7	26.4
5400.0	46.0	-61.7			76.3	503.5	237.5	19.8
5350.0	45.2	-61.5			74.4	503.8	237.4	14.5
5300.0	44.1	-61.3			72.6	507.0	306.5	12.6
5250.0	43.1	-61.1			70.7	507.3	337.7	14.7
5200.0	42.0	-60.9			69.0	507.6	356.1	19.3
5150.0	41.0	-60.7			67.3	507.8	40.4	23.3
5100.0	40.0	-60.5			65.6	508.1	60.1	24.1
5050.0	39.1	-60.3			63.9	508.2	70.9	25.1
5000.0	38.1	-60.1			62.3	508.6	70.9	24.4
4950.0	37.2	-59.0			60.5	507.0	1.1	19.3
4900.0	36.3	-57.8			58.8	571.7	349.6	14.6
4850.0	35.5	-56.8			57.1	573.0	329.4	11.0
4800.0	34.6	-56.9			55.6	572.9	299.0	10.1
4750.0	33.8	-57.0			54.5	572.7	271.7	12.1
4700.0	33.0	-57.2			52.2	572.6	254.6	15.9
4650.0	32.2	-57.3			52.0	572.4		
4600.0	31.5	-57.4			51.8	572.3		
4550.0	30.7	-57.5			49.6	572.1		
4500.0	30.0	-57.6			48.5	572.0		

STATION ALTITUDE 3951.40 FEET MSL
 19 MAY 06 0730 HRS MST
 ASCENSIO. NO. 11

MANDATORY LEVELS
 0790050011
 APACHE

GEODETIC COORDINATES
 32°02'00" LAT LNG
 106°39'52" LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENIGRADE	REL.HU. DEPOINT PERCENT	WIND DATA DIRECTION DEGREES (IN) SPEED KNOTS
150.0	4776.	10.8	-5.2	102.6 2.4
800.0	6423.	7.3	-8.4	180.5 7.5
750.0	6152.	3.1	-11.0	32. 33.
700.0	9971.	-1.4	-15.2	190.3 13.1
650.0	11801.	-5.9	-20.2	214.3 20.3
600.0	13936.	-9.0	-24.3	226.2 35.3
550.0	16131.	-12.0	-28.0	231.4 53.3
500.0	18474.	-16.1	-35.5	231.9 59.4
450.0	21048.	-23.8	-39.0	232.0 60.6
400.0	23676.	-30.1	-43.3	236.4 72.4
350.0	26906.	-37.8	-50.1	236.4 76.0
300.0	30335.	-45.3	-50.1	235.2 65.2
250.0	34263.	-54.7	-54.7	236.3 61.8
200.0	38928.	-53.7	-53.7	239.2 92.4
175.0	41744.	-53.7	-53.7	235.9 83.4
150.0	44954.	-58.2	-58.2	235.6 73.6
125.0	48075.	-62.0	-62.0	236.5 62.3
100.0	53220.	-61.1	-61.1	255.4 40.9
80.0	57710.	-65.9	-65.9	259.1 35.9
75.0	60403.	-62.6	-62.6	258.1 47.1
60.0	63511.	-63.9	-63.9	255.2 39.4
50.0	67195.	-62.3	-62.3	240.7 34.8
40.0	71726.	-61.5	-61.5	24.1 6.0
30.0	77673.	-57.6	-57.6	

STATION ALTITUDE 4010.40 FEET MSL
 19 M.R. 0° 07'50" HRS MSL
 ASCENTION 10. 11

SIGNIFICANT LEVEL DATA

0790220011

NW 30

ECONOMIC COORDINATES
 32°08'49" LAT
 106°49'14" LONG DEG

TABLE 11

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
874.1	4010.4	7.3	59.0
856.0	4767.5	8.1	-2.5
803.4	6296.6	8.4	-6.0
707.0	9071.4	-9	-18.4
500.0	18527.5	-17.4	-36.0
424.6	22199.5	-26.6	-43.4
400.0	23903.3	-30.2	-46.4
373.2	25495.7	-35.0	-49.1
360.0	30411.5	-45.6	-54.6
250.0	34335.2	-54.4	-56.7
235.0	35634.1	-56.7	-53.6
219.6	37059.6	-53.6	-54.9
204.8	38533.3	-54.9	-56.0
200.0	39033.9	-56.0	-52.9
173.0	42109.1	-52.9	-57.6
150.0	45110.2	-57.6	-62.3
122.4	49297.2	-62.3	-67.8
107.0	53361.1	-67.8	-62.1
82.2	57291.4	-63.6	-59.7
74.2	59385.1	-59.7	-62.1
70.0	60561.0	-62.1	-67.8
59.2	63656.4	-67.8	-62.1
56.0	67737.6	-62.1	-59.7
45.4	69340.0	-59.7	-61.5
36.8	72572.1	-61.5	-57.1
36.6	73780.7	-57.1	-56.4
30.0	77948.0	-56.4	

STATION ALTITUDE 4010.40 FEET MSL
19 APR. 20 0750 HRS 451
ABSCISSION NO. 11

UPPER AIR DATA
0790220011
NW 30

TABLE 12

STATION ALTITUDE	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	FIELD OF VIEW DEGREES (1.)	WIND DATA DIRECTION, KNOTS	INDEX OF REFRACTION
4610.4	974.1	7.3	-2	59.0	1082.9	653.3	.0
4500.0	959.4	7.8	-1.6	51.2	1061.6	655.8	220.7
4500.0	942.7	8.1	-3.3	44.3	1041.4	654.1	220.7
5000.0	927.4	8.2	-5.1	38.4	1022.3	654.1	220.7
5000.0	912.2	8.3	-7.2	32.5	1005.5	654.2	219.1
5500.0	907.3	7.9	-9.1	28.8	986.9	653.6	216.4
7000.0	782.5	6.6	-10.5	28.2	973.1	652.1	211.2
7500.0	668.0	5.4	-11.8	27.7	959.4	650.5	206.4
8000.0	553.7	4.1	-13.1	27.1	946.0	649.0	202.8
8500.0	339.7	2.8	-14.5	26.6	932.8	647.5	202.1
9000.0	126.0	1.6	-15.9	26.1	919.6	646.0	205.4
9500.0	112.5	.3	-17.1	25.5	906.9	644.5	209.3
10000.0	99.2	-1.0	-16.5	25.0	894.2	643.0	212.8
10500.0	685.6	-1.9	-19.5	24.5	879.9	641.3	214.9
11000.0	672.2	-2.9	-20.6	24.0	865.9	640.7	217.8
11500.0	659.2	-3.8	-21.5	23.6	852.2	639.5	221.5
12000.0	646.5	-4.8	-22.7	23.1	838.6	638.4	224.4
12500.0	633.7	-5.8	-23.7	22.6	825.3	637.2	226.7
13000.0	621.4	-6.7	-24.6	22.2	812.2	636.0	228.4
13500.0	609.3	-7.7	-25.8	21.7	799.3	634.9	229.8
14000.0	597.4	-8.7	-26.9	21.2	786.6	633.7	230.6
14500.0	585.8	-9.6	-27.9	20.8	774.1	632.5	231.9
15000.0	574.4	-10.6	-27.6	20.3	761.9	631.4	231.8
15500.0	563.2	-11.6	-30.0	19.8	749.8	630.2	230.1
16000.0	552.3	-12.5	-31.1	19.4	737.9	629.0	229.6
16500.0	541.5	-13.5	-32.2	18.9	726.3	627.9	229.6
17000.0	531.0	-14.5	-33.2	18.4	714.8	626.7	229.7
17500.0	520.6	-15.4	-34.3	18.0	703.5	625.5	230.4
18000.0	479.5	-16.4	-35.4	17.6	692.4	624.3	230.7
18500.0	500.5	-17.3	-36.4	17.0	681.5	623.1	230.6
19000.0	490.3	-18.6	-37.3	17.3	670.9	621.6	230.6
19500.0	480.3	-19.8	-38.2	17.5	660.4	620.1	231.0
20000.0	470.5	-21.1	-39.1	17.6	650.1	619.0	231.4
20500.0	460.9	-22.3	-40.0	18.1	640.0	617.0	232.1
21000.0	451.4	-23.6	-41.0	18.3	630.1	615.5	232.0
21500.0	442.2	-24.8	-41.9	18.6	620.3	613.9	233.4
22000.0	433.2	-26.1	-42.8	18.9	610.7	612.4	233.9
22500.0	424.2	-27.2	-43.7	19.0	600.8	610.9	234.1
23000.0	415.3	-28.3	-44.6	19.0	590.8	609.6	234.4
23500.0	406.6	-29.4	-45.5	19.0	580.9	608.3	234.0

GEODETIC COORDINATES
32.8497 LAT 166
106.49714 LON LEE

STATION ALTITUDE 4910.40 FEET MSL
19 34.8° 65° 0750 IHS NST
ASCRSSION NO. 11

UPPER AIR DATA
5770220014
NW 30

GEODETIC COORDINATES
32.08497 LAT DEG
106.49714 LONG DEG

TABLE 12 (CONT)

GEOD. ALT. FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR TEMP POINT	REL. HUM. PERCENT	SPECI. OF SOUND METER	WIND DATA DIRECTIONS (T ₁₁) KNOTS	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	398.0	-10.4	-46.4	19.0	571.2	600.9	234.7	80.4
24500.0	399.5	-31.5	-47.3	19.0	561.5	515.6	234.6	79.0
25000.0	381.2	-32.6	-48.2	19.0	552.0	614.3	234.4	78.2
25500.0	373.1	-33.6	-49.1	19.0**	542.6	605.0	234.1	77.7
26000.0	364.9	-34.8	-51.1	17.1**	532.4	611.4	234.2	78.0
26500.0	356.9	-36.1	-53.1	15.1**	524.4	599.9	234.4	78.5
27000.0	349.1	-37.5	-55.3	13.2**	515.5	588.3	234.6	81.7
27500.0	341.4	-38.5	-57.5	11.3**	506.8	569.8	234.6	85.0
28000.0	333.9	-39.7	-60.0	9.3**	495.3	515.2	234.9	83.9
28500.0	326.6	-40.9	-62.7	7.4**	489.9	593.7	235.1	92.8
29000.0	319.9	-42.2	-65.9	5.5**	481.7	592.1	235.3	95.9
29500.0	312.4	-43.4	-69.9	3.5**	473.6	591.5	235.5	98.8
30000.0	305.5	-44.6	-76.0	1.6**	465.7	569.0	235.7	101.3
30500.0	298.8	-45.8			457.8	567.4	236.1	102.9
31000.0	291.9	-46.9			449.5	536.0	236.4	104.5
31500.0	285.2	-48.0			441.4	564.5	236.6	105.9
32000.0	278.7	-49.2			433.4	533.1	236.3	107.1
32500.0	272.3	-50.3			425.6	561.6	236.2	107.8
33000.0	266.0	-51.4			417.9	560.1	236.0	108.0
33500.0	259.9	-52.5			410.4	578.7	236.3	107.1
34000.0	253.9	-53.6			403.0	577.2	236.4	103.9
34500.0	248.0	-54.7			395.5	575.8	236.5	100.5
35000.0	242.2	-55.6			387.8	574.6	236.0	196.5
35500.0	236.5	-56.5			380.2	573.5	235.0	94.0
36000.0	230.9	-57.5			370.3	574.2	234.2	1.00000.1
36500.0	225.3	-54.8			359.8	575.6	232.5	95.3
37000.0	220.2	-53.7			349.6	577.1	237.2	97.9
37500.0	215.1	-54.0			341.9	576.7	233.6	99.8
38000.0	210.0	-54.4			334.5	576.2	236.7	97.9
38500.0	205.1	-54.9			327.4	575.6	236.7	96.1
39000.0	200.3	-54.1			319.5	576.6	237.0	88.3
39500.0	195.7	-53.8			310.4	579.9	234.7	80.2
40000.0	191.1	-53.7			305.3	577.2	233.0	71.5
40500.0	186.6	-53.5			296.0	577.4	230.9	62.8
41000.0	182.1	-54.9			281.4	577.0	231.4	60.2
41500.0	178.0	-53.1			275.9	577.9	232.2	58.4
42000.0	173.9	-52.9			275.1	578.1	230.1	60.1
42500.0	169.8	-53.5			269.3	577.4	235.9	62.9
43000.0	165.8	-54.3			264.0	578.3	234.2	65.7
43500.0	161.9	-55.1			256.7	575.3	234.0	68.6

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.0 FEET MSL
19 MAR. 50 0750 HRS MST
ASCE.1001.1C. 11

UPPER AIR DATA
0730Z 2200Z
NW 30

GEODETIC COORDINATES
32°09'49" LAT LEG
106°49'14" LON LEG

TABLE 12 (CONT)

GEOPHYSIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	SHELF OF SOUND METER	WIND DATA DIRECTN. DEGREES(FRI.)	INDEX OF REFRACTION:
44600.0	158.1	-55.9	250.5	574.3	234.3	1.000055
44500.0	154.4	-59.6	246.5	573.0	234.0	1.000055
45000.0	150.4	-57.4	243.5	572.2	234.9	1.000054
45500.0	147.2	-58.0	236.4	571.4	235.8	1.000053
46000.0	143.7	-58.6	233.3	570.6	236.9	1.000052
46500.0	140.2	-59.2	226.3	569.9	237.4	1.000051
47000.0	136.8	-59.7	223.4	569.1	238.9	1.000050
47500.0	133.6	-60.3	216.6	568.4	239.9	1.000049
48000.0	130.4	-60.8	213.9	567.6	239.8	1.000048
48500.0	127.2	-61.4	209.3	566.9	239.0	1.000047
49000.0	124.2	-62.0	204.8	566.1	239.4	1.000046
49500.0	121.2	-62.6	200.5	565.3	239.5	1.000045
50000.0	118.2	-63.3	196.2	564.4	237.7	1.000044
50500.0	115.3	-63.9	192.0	563.5	237.1	1.000043
51000.0	112.5	-64.6	187.9	562.6	237.4	1.000042
51500.0	109.7	-65.3	183.8	561.7	237.7	1.000041
52000.0	107.0	-66.0	179.9	560.6	239.4	1.000040
52500.0	104.4	-66.6	176.1	559.9	242.0	1.000039
53000.0	101.8	-67.3	172.3	558.9	245.0	1.000038
53500.0	99.3	-67.7	168.4	558.5	247.7	1.000037
54000.0	96.9	-67.1	165.8	559.2	250.5	1.000036
54500.0	94.5	-66.6	159.3	559.9	252.1	1.000035
55000.0	92.2	-66.0	155.0	560.6	253.1	1.000035
55500.0	89.9	-65.5	150.8	561.4	254.1	1.000034
56000.0	87.7	-65.0	146.7	562.1	254.4	1.000033
56500.0	85.5	-64.4	142.7	562.6	254.7	1.000032
57000.0	83.4	-63.9	138.9	563.5	255.0	1.000031
57500.0	81.4	-63.2	135.0	564.5	255.3	1.000030
58000.0	79.4	-62.3	131.2	565.7	255.6	1.000029
58500.0	77.5	-61.9	127.4	567.0	256.1	1.000028
59000.0	75.6	-60.4	123.6	568.2	256.2	1.000027
59500.0	73.8	-59.9	120.6	569.9	257.2	1.000027
60000.0	72.0	-60.9	118.2	571.5	257.9	1.000026
60500.0	70.3	-61.9	115.9	569.2	258.7	1.000026
61000.0	68.6	-62.8	113.2	565.0	259.7	1.000025
61500.0	66.9	-63.7	111.2	563.9	260.4	1.000025
62000.0	65.2	-64.5	103.9	562.7	261.4	1.000024
62500.0	63.6	-65.3	101.6	561.6	262.4	1.000024
63000.0	62.1	-66.2	104.5	560.5	264.3	1.000023
63500.0	60.6	-67.0	102.3	559.3	265.8	1.000023

STATION ALTITUDE 4910.40 FEET MSL
19 MAR. 60 0750 HRS MST
ASSEMBLY NO. 11

UPPER AIR DATA
07902200011
NW 30

GEOMETRIC COORDINATES
32°38'49" LAT LEG
106°49'14" LONG LEG

TABLE 12 (CONT)

GROUND PRESSURE ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF WIND DATA KNOTS	INDEX OF REFRACTION
REL. HUM. PERCENT	GRAD/CURV. METER	SOUND KNOTS	DIRECTION, DEGREES(T)	SPEED KNOTS	
59.1	-67.7		100.2	50.4	15.7
57.6	-66.9		97.3	55.6	15.7
56.2	-66.0		94.5	50.6	16.8
54.8	-65.2		91.9	51.8	17.9
53.5	-64.4		89.2	52.9	18.7
52.2	-63.6		86.7	54.0	19.4
50.9	-62.7		94.2	55.2	20.1
49.6	-61.9		81.9	50.2	19.1
48.3	-61.3		79.7	50.5	17.9
47.0	-60.7		77.6	50.7	16.7
46.2	-60.1		75.5	50.8	15.5
45.0	-59.8		72.6	50.9	13.8
44.0	-60.1		71.9	50.8	12.5
42.9	-60.3		70.2	50.8	11.4
41.9	-60.6		66.6	50.7	10.6
40.9	-60.9		67.1	50.7	10.1
39.9	-61.2		65.2	50.7	10.2
38.9	-61.5		64.6	50.8	4.3
38.0	-59.9		62.1	50.8	17.3
37.1	-56.1		60.1	57.1	13.5
36.2	-57.1		56.4	57.2	18.0
35.4	-57.0		57.0	57.2	20.1
34.5	-56.9		55.3	57.2	22.4
33.7	-56.8		54.3	57.3	1.000012
32.9	-56.7		53.0	57.3	1.000013
32.1	-56.6		51.7	57.3	1.000012
31.4	-56.6		50.5	57.3	1.000011
30.6	-56.5		49.3	57.3	1.000011

STATION ALTITUDE 4010.40 FEET AMSL
 19 MAR. 08 0750 HRS MST
 ASCENSOR NO. 11

MANDATORY LEVELS
 07902:20011
 NW 30

TABLE 13

PRESSURE MILLIBARS	GEOPOENTIAL FEET	TEMPERATURE DEGREES	REL.HUM. PERCENT	WIND DATA			
				DEGREE	INCL. DEGREES	DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4764.0	8.1	-2.5	47.		220.7	6.0
600.0	6407.0	8.1	-8.9	29.		216.8	15.7
750.0	8140.0	3.6	-13.5	27.		201.9	23.8
700.0	9962.0	-9	-18.4	45.		212.6	30.6
650.0	11889.0	-4.5	-22.4	23.		223.9	41.6
600.0	13942.0	-8.5	-26.6	21.		230.6	51.0
550.0	16130.0	-12.7	-31.3	19.		229.6	59.3
500.0	18503.0	-17.4	-36.5	17.		230.6	63.1
450.0	21060.0	-23.8	-41.1	16.		232.9	72.1
400.0	23845.0	-30.2	-46.2	19.		234.7	80.8
350.0	26920.0	-37.1	-55.0	13.**		234.0	81.4
300.0	30353.0	-45.6				236.0	102.6
250.0	34263.0	-54.4				233.7	101.8
200.0	38943.0	-54.0				236.9	88.0
175.0	41762.0	-53.0				232.8	59.3
150.0	44992.0	-57.6				235.0	69.3
125.0	48732.0	-61.8				239.4	53.9
100.0	53201.0	-67.8				246.8	55.3
80.0	57656.0	-62.6				255.5	53.8
70.0	60378.0	-62.1				258.4	33.3
60.0	63465.0	-67.3				267.6	16.6
50.0	67110.0	-62.1				285.0	19.6
40.0	71667.0	-61.2				343.5	10.0
30.0	77622.0	-56.4					

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

